

IN THE CLAIMS:

Please cancel claims 2, 3, 5, 6 and 9 in their entirety without prejudice nor disclaimer of the subject matter set forth therein.

Please amend claims 1, 4, 7, 8, 10-15 and 17 as follows.

1. (Currently Amended) A hydrogen gas generator for generating hydrogen from a source fuel of the hydrocarbon family, oxygen, and steam,

said hydrogen gas generator comprising:

a fuel reformer (~~5~~) with a catalyst (~~27~~) which exhibits an activity to a partial oxidation reaction of said source fuel;

wherein said source fuel, oxygen, and steam are supplied to said reformer (~~5~~) so that, within said fuel reformer (~~5~~), said partial oxidation reaction occurs on said catalyst (~~27~~) and a water gas shift reaction occurs in which CO produced in said partial oxidation reaction is a reactant,

the  $O_2/C$  ratio, which is the ratio of the number of moles of said oxygen to the number of moles of carbon of said source fuel, is not less than 0.9 times the  $O_2/C$  theoretical mixture ratio in said partial oxidation reaction,

the  $H_2O/C$  ratio, which is the ratio of the number of moles of said steam to the number of moles of carbon of said source fuel, is not less than 0.5,

said water gas shift reaction is controlled such that the  $CO_2/CO$  ratio, which is the ration of  $CO_2$  to CO in an outlet gas of said fuel reformer, is not less than 0.2 and

the outlet gas temperature of said fuel reformer is not more than 800 degrees centigrade.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) The hydrogen gas generator of claim 3 1, wherein the  $H_2O/C$  ratio is not more than 3.

5. (Canceled)

6. (Canceled)

7. (Currently Amended) The hydrogen gas generator of claim 1, wherein the supply rate of source fuel and oxygen to said fuel reformer (~~5~~) is set such that the  $O_2/C$  ratio, which is the ratio of the number of moles of said oxygen to the number of moles of carbon of said source fuel, is greater than said  $O_2/C$  theoretical mixture ratio in said partial oxidation reaction.

8. (Currently Amended) The hydrogen gas generator of claim 6 1, wherein said  $O_2/C$  is not more than 1.5 times said  $O_2/C$  theoretical mixture ratio.

9. (Canceled) The hydrogen gas generator of claim 1, wherein the supply rate of source fuel, oxygen, and steam to said fuel reformer (5) is set such that the  $O_2/C$  ratio, which is the ratio of the number of moles of said oxygen to the number of moles of carbon of said source fuel, is not less than 0.9 times said  $O_2/C$  theoretical mixture ratio in said partial oxidation reaction, and that the  $H_2O/C$  ratio, which is the ratio of the number of moles of said steam to the number of said source fuel carbon moles, is not less than 0.5.

10. (Currently Amended) A hydrogen gas generator for generating hydrogen from a source fuel of the hydrocarbon family, oxygen, and steam,

said hydrogen gas generator comprising:

a fuel reformer (~~5~~) with a catalyst (~~27~~) which exhibits an activity to a partial oxidation reaction of said source fuel;

wherein the supply rate of source fuel, oxygen, and steam to said fuel reformer (~~5~~) is set such that the  $O_2/C$  ratio, which is the ratio of the number of moles of said oxygen to the

number of moles of carbon of said source fuel, is not less than 0.9 times but not more than 1.5 times the  $O_2/C$  theoretical mixture ratio in said partial oxidation, and that the  $H_2O/C$  ratio, which is the ratio of the number of moles of said steam to the number of said source fuel carbon moles, is not less than 0.5 but not more than 3, whereby, within said fuel reformer (5), said partial oxidation reaction occurs on said catalyst (27) and a water gas shift reaction occurs in which CO produced in said partial oxidation reaction is a reactant;

wherein said water gas shift reaction is controlled such that the  $CO_2/CO$  ratio, which is the ratio of  $CO_2$  to CO in an outlet gas of said fuel reformer (5), is not less than 0.2; and

wherein the temperature of said outlet gas of said fuel reformer (5) is not more than 800 degrees centigrade.

11. (Currently Amended) The hydrogen gas generator of claim 1, wherein an active site of said catalyst (27) is formed of at least one of rhodium and ruthenium.

12. (Currently Amended) The hydrogen gas generator of claim 11, wherein said catalyst (27) is supported on a honeycomb monolith carrier.

13. (Currently Amended) A fuel cell system comprising:  
a hydrogen gas generator of any one of claims ~~1-12~~ 1, 4, 7, 8, 10, 11 and 12;  
and

a fuel cell (~~1~~) capable of generating electricity by making use of hydrogen produced by said hydrogen gas generator as a fuel.

14. (Currently Amended) The fuel cell system of claim 13 further comprising:  
discharged gas supply means (~~35~~) for supplying a steam-containing gas, discharged from an oxygen electrode of said fuel cell, to said fuel reformer (5) for a supply of steam to said fuel reformer (5).

15. (Currently Amended) The fuel cell system of claim 13 further comprising:

output current control means ~~(38)~~ for controlling the output current of said fuel cell so that the oxygen concentration and the steam concentration of a discharged gas that is supplied to said fuel reformer ~~(5)~~ fall within their respective given ranges.

16. (Original) The fuel cell system of claim 13 further comprising:

output current control means for controlling the output current of said fuel cell so that the coefficient of utilization of oxygen of said fuel cell ranges from 0.4 to 0.75.

17. (Currently Amended) The fuel cell system of claim 13 further comprising:

air supply means ~~(39)~~ for a supply of air to said fuel reformer ~~(5)~~.